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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,446	07/02/2003	Dennis A. Kramer	9501-72886	5436
23643	7590	04/14/2004	EXAMINER	
BARNES & THORNBURG 11 SOUTH MERIDIAN INDIANAPOLIS, IN 46204			NGUYEN, TU MINH	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 04/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/612,446	Applicant(s) KRAMER, DENNIS A.
	Examiner Tu M. Nguyen	Art Unit 3748



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. An Applicant's Amendment filed on March 31, 2004 has been entered. Claim 12 has been canceled; and claims 1, 2, 4, and 7-10 have been amended. Overall, claims 1-11 and 13-17 are pending in this application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 6-9, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Cohn et al. (U.S. Patent 5,852,927).

Re claims 1 and 8, as shown in Figure 4, Cohn et al. disclose a fuel reforming system and a method of said fuel reforming system, the method comprising the steps of:

- operating a turbocharger (64, 68) so as to produce pressurized air (74), and
- advancing the pressurized air (74) through a plasma fuel reformer (62).

Re claims 2 and 3, as illustrated in Figure 6, the reformat gas in the method of Cohn et al. comprises a hydrogen-rich gas; and the reformat gas advancing step comprises advancing the hydrogen-rich gas to an intake of an engine (140) with the pressurized air.

Re claims 6 and 11, as depicted in Figure 7, the turbocharger in the system and method of Cohn et al. has a turbine assembly (162), and the operating step comprises driving the turbine assembly with exhaust gases from an internal combustion engine (156).

Re claim 7, in the method of Cohn et al., the plasma fuel reformer (62) has an air inlet, and the advancing step comprises advancing the pressurized air (74) through the air inlet of the plasma fuel reformer.

Re claim 9, in the system of Cohn et al. shown in Figure 6, the plasma fuel reformer (132) has a reformat gas outlet, and the reformat gas outlet is fluidly coupled to an intake of an internal combustion engine (140).

4. Claims 13, 14, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Parsons (U.S. Patent 4,735,186).

Re claim 13, as shown in Figure 1, Parsons discloses a method of operating a power system, the method comprising the steps of:

- operating a turbocharger so as to produce pressurized air (lines 51-52 of column 1), and
- advancing a reformat gas from a fuel reformer (5) to a component (2) with the pressurized air (lines 51-52 of column 1).

Re claims 14 and 17, in the method of Parsons, the reformat gas comprises a hydrogen rich gas; and the advancing step comprises advancing the reformat gas from the fuel reformer to the intake of the engine (2) with the pressurized air.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4-5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohn et al. as applied to claims 1 and 8, respectively, above, in view of Bromberg et al. (U.S. Patent 6,560,958).

In the method and system of Cohn et al., the reformat gas comprises a hydrogen-rich gas. Cohn et al., however, fail to disclose that the reformat gas advancing step comprises advancing the hydrogen-rich gas to an emission abatement device with the pressurized air.

As shown in Figure 5, similar to Cohn et al., Bromberg et al. teach a plasma fuel converter (12) that generates and supplies a hydrogen-rich gas to an internal combustion engine (26). They further teach the supply of the hydrogen-rich gas to a NOx catalyst (32) for the effective NOx regeneration of the catalyst. It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have advanced the reformat gas in Cohn et al. to an emission abatement device as taught by Bromberg et al., since the application thereof would have reduced the emission of harmful NOx into the atmosphere.

7. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parsons as applied to claim 13 above, in view of Wakamoto (U.S. Patent 5,894,728).

The method of Parsons discloses the invention as cited above, however, fails to disclose that the advancing step comprises advancing the reformat gas with the pressurized air from the fuel reformer to an emission abatement device.

As shown in Figures 1 and 3, Wakamoto teaches the supply of a reformat reductant generated by a reforming reactor (60) to an emission abatement device (3) to reduce NO_x in the exhaust gas (lines 19-44 of column 5). It would have been obvious to one having ordinary skill in the art at the time of the invention was made, to have utilized the teaching of Wakamoto in the method of Parsons, since the use thereof would have reduced the emission of harmful NO_x into the atmosphere.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Parsons as applied to claim 13 above, in view of official notice.

The method of Parsons discloses the invention as cited above, however, fails to specifically disclose that the turbocharger has a turbine assembly, and the operating step comprises driving the turbine assembly with exhaust gases from an internal combustion engine.

It is well known to those with ordinary skill in the art that the turbocharger in Parsons has a turbine assembly which is driven by the exhaust gases from the internal combustion engine. Therefore, such disclosure by Parsons is notoriously well known in the art so as to be proper for official notice.

Response to Arguments

9. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments with respect to claims 13-17 have been fully considered but they are not persuasive.

In response to applicant's argument that Parsons fails to disclose "operating a turbocharger so as to produce pressurized air" (page 7 of Applicant's Amendment), the examiner respectfully disagrees.

The text on lines 51-52 of column 1 in Parsons means the reformed fuel is advanced into the engine (2) by a pressurized charge of air generated by a compressor of a turbocharger. The engine (2) in Parsons is an internal combustion engine that burns a mixture of reformed fuel and air. The air is pressurized and supplied by a turbocharger. The pressurized air can also be used to advance the reformed fuel into the engine. The system of Parsons is much more complicated if the outlet of the fuel reformer (5) is redesigned to be fluidly connected to the compressor of the turbocharger in order to accomplish the task of "turbocharging a reformed fuel" as alleged by applicant.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Prior Art

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of one patent: Smaling et al. (U.S. Patent 6,702,991) further disclose a state of the art.

Art Unit: 3748

Communication

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Tu Nguyen whose telephone number is (703) 308-2833.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Thomas E. Denion, can be reached on (703) 308-2623. The fax phone number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

Tu M. Nguyen

TMN

Tu M. Nguyen

April 13, 2004

Patent Examiner

Art Unit 3748